QUINN S, HERRON D, MENZIES R, SCOTT L, BLACK R, ZHOU Y, WALLER A, HUMPHRIS G, FREEMAN R

# The Video Interaction Guidance approach applied to teaching communication skills in dentistry.

Eur J Dent Educ.

20. Apr 2015

doi: 10.1111/eje.12146

**Abstract**

Background: Patients with intellectual disabilities have poorer oral hygiene than the general population. These oral health problems may stem from the anxiety that these patients experience on visiting the dentist. Dental staff may also have difficulty in ensuring their patients understand the treatments they receive at the dentist. Making dentists aware of their communication strategy may combat some of the barriers that some patients with complex communication needs experience in the dental setting. The aim of this study was to report a newly applied training technique to the dental setting to examine dentist/patient communication.

Materials and Methods: A dentist participated in Video Interaction Guidance to encourage more attuned interactions with their patients. The dentist was presented with short segments of video footage taken during an appointment with two patients with intellectual disabilities and communication difficulties. Having observed their interactions, the dentist was asked to reflect on their communication strategies with the assistance of a trained VIG specialist.

Results: The dentist successfully identified several verbal and non-verbal communication strategies they believed to be effective in reducing patient anxiety and relinquishing control to the patient. Where these strategies were omitted not used, the dentist recognised their strategy and gave positive reflections that may improve future interactions with their patients.

Discussion: The VIG session was beneficial in this exploratory investigation because the dentist could identify when their interactions were most effective. Awareness of their non-verbal and verbal communication strategies and the need to adopt these behaviours frequently, were identified as key to improving outcomes for their patients.

**Introduction**

Patient compliance in health interventions can be encouraged if the clinician can communicate effectively with their patients (Freeman & Humphries, 2006). This can provide life-long benefits for patients, leading to increased health and wellbeing. Where communication falters, patients may have greater difficulty accepting their treatments and become disengaged from the decision making process (Hacking, Scott, Wallace, Shepherd & Belkora, 2013). This can lead patients to feel more uncertain and anxious about the outcome of their treatments, particularly with complex clinical procedures where communication may be more challenging.

Dougall and Fiske (2008) suggest that the verbal and non-verbal cues that are used during communication do not occur equally. For example, 'words' are thought to take up 7% of our communication with others, whilst a persons' tone of voice and non-verbal cues (i.e. facial expressions and body language) contribute 33% and 60%, respectively. To ensure that a message has been understood, the communicator should ask the individual receiving the message whether they understand what is being communicated and reflect on their communication strategy. Where verbal and non-verbal signals are incongruent, a message is likely to be misunderstood. A congruent message may involve verbal feedback ('well done'), good eye contact and a tone of voice that suggests they are interested in the person they are talking to. Where verbal feedback is not accompanied by eye contact and a positive tone of voice, the individual receiving the message may interpret the signal negatively, even though the persons talking may not feel this way (i.e. an incongruent message). Recognising this breakdown in communication in the dental setting and trying to resolve this during the appointment should remove some of the difficulties encountered by clinical staff and patients.

There are a number of accepted and well-established features of good clinical communication. For example, any message that is transmitted must be clear and jargon-free (Dougall & Fiske, 2008). It should take into account that the same message may be interpreted differently across patients. Dougall and Fiske (2008) argue that the clinician should try to recognise their own approach and

ensure that they use verbal and non-verbal strategies appropriately. However, in complex clinical situations, staff may find it difficult to recognise whether their verbal and non-verbal communication strategies are incongruent or consistent with each other. Encouraging clinicians to recognise where and when their strategies are effective and engaging the clinician in self-reflection could enable them to recognise congruent versus incongruent messages.

Clinicians often report challenges in communicating with patients with intellectual disabilities and communication difficulties (Coyle, 2011; Oliver & Nunn, 1996; see Dolan, 2013 for a review). Although newly qualified dentists are fully trained in all aspects of practice-based dentistry, the curriculum provides little time to gain the specialised skills (including communication skills), that are necessary to prepare trainees to treat patients with complex communication needs (Bindal, Lin, Bindal, Safi, Zainuddin & Lionel, 2015). Consequently, dental staff may be reluctant to provide physical treatments to patients with intellectual disabilities and communication difficulties because they feel anxious (Baird et al., 2007; Nunn, Greening, Wilson, Gordon, Hylton, & Griffiths, 2004; Shin & Saeed, 2013). For these various reasons, patients may be referred to Special Care Surgeries rather than be treated at a general dental practice.

Video Interaction Guidance (VIG) is a method that involves a theoretically driven approach, used widely with individuals in challenging social situations and encourages self-reflection (Kennedy et al., 2011 for a review). VIG has been implemented in educational settings (Fukkink & Tavecchio, 2010; Gavine & Forsyth, 2011; Šírová & Krejčová, 2011), used by parents and children living in difficult social environments (Gavine & Forsyth, 2011), with parents of children with cochlear implants and intellectual disabilities (James, Wadnerkar, Lam-Cassettari, Kang & Telling, 2012; Pilnick & James, 2013), with a trainee speech and language therapist (James, Collins & Samoylova, 2012) and children with communication difficulties (Forster & Iacono, 2013; Wadnerkar, Pirinen, Haines-Bazrafshan, Rodgers & James, 2011). In each case, the VIG approach allowed participants to come to a better understanding of why and when their interactions were successful, and highlighted practical methods to improve and maintain successful interactions in the future.

The VIG technique is not critical of the individual participating in the review and centres on the participants' views of their interactions and communication strategies with the support of another independent individual, referred to as a "guider". The VIG method emphasises the need to explore attuned interactions, where the initiatives of individuals are acknowledged and responded to by the receivers of those initiatives during an interaction. Initiatives can be characterised by both verbal and non-verbal cues that are displayed by the individual taking part in an interaction of situation. These cues include, eye-contact, nodding in response to an initiative, speakers moving towards one another, individuals agreeing with each other through words (e.g. saying 'yes'), and individuals repeating what has been said by the other individuals in the video to ensure they have understood a message. Successful communication strategies require each individual to receive and respond to each initiative. The quality of the responses and initiatives are measured through a criterion that identifies moments where individuals undertake and acknowledge the initiatives of others in the interaction. This occurs through close inspection of the video footage (by the guider) prior to a VIG session.

The VIG approach has been evaluated with patients with intellectual disabilities and communication difficulties in the dental setting (Quinn, *in press*). Experienced dentists were asked to participate in VIG sessions where a guider led the dentists through a series of video segments (now referred to as micro-moments) of their appointments with patients with intellectual disabilities and communication difficulties. These dentists were asked to express their views regarding their experience of VIG and what they believed they had learned during the course of the session. Dentists mentioned that the whole process had been useful and informative. Some dentists recognised that some aspects of their communication strategies were not as successful as they hoped. They also suggested that, at least in some cases, they had been unaware of the anxieties and fears that their patients were demonstrating and said that they would be more aware of their patients' distress in the future.

The current study progresses this research by comparing a dentists' view on the communication strategies they use with two patients during separate VIG sessions. The VIG sessions

were recorded and analysed using discourse analysis to characterise the dentists' views on their interactions. The discourse analytic approach examined the way in which language was used to construct accounts, and how this reflected wider practices (Potter & Wetherell, 1987). The patients in this study have very different communication strategies: one with no difficulties in conversing with the dentist; the other communicated verbally on one occasion only during the appointment. We assessed what the dentist said about the challenges they faced with patients with different communication needs and whether they recognised moments where they interpreted the patients' verbal and non-verbal strategies as congruent or incongruent. We then determine what the dentist says about the consequences of these congruent and incongruent strategies and why and how they interpret these signals.

**Methods**

*Participants*

A dentist was recruited from a surgery in the local area. The dentist had 24yrs experience in dental practice and was naïve to the specific purpose of the study other than what was explained in the participant information sheet, which presented a focus on developing new training approaches for dental staff. The characteristics of the patients can be found in Table 1. The first author carried out the VIG sessions and obtained training from a qualified practitioner.

| Patient | Gender | Age (yrs) | Disability |
|---|---|---|---|
| 1 | Female | 61 | Moderate Learning Difficulties |
| 2 | Male | 49 | Moderate Learning Difficulties and Mild Epilepsy |

*Table 1. Characteristics of each patient*

*Ethics*

Informed consent to take part in the study was obtained from the dentist, the dental nurse, the parent and if possible, consent was taken from the patient. Ethical approval to carry out the study

was obtained from Research and Development at NHS Tayside and the NHS Lothian Research and Ethics Committee in Edinburgh (15/02/13 and REC 13/SS/0036).

*Materials & Design*

*1. Stages in the Micro-moment Selection Procedure*

The dental appointments lasted no more than 35 minutes and were recorded via two Sony Handycam video recorders in the treatment room. Table 2 provides details of the procedure and stages that we used to code and select the "micro-moments" used in the VIG sessions for each dentist. All micro-moments in the videos where the patient and dentist were communicating verbally and non-verbally were listed (Table 2, stage 1). These micro-moments were coded to allow us to identify behavioural qualities of the interactions between the dentist and patient, prior to the VIG sessions (see Table 2, stage 2). A checklist (see Table 3) was used to code the behaviours in each micro-moment (as defined in Quinn et al. *in* press) and taken from a coding system outlined by Kennedy (2011) to identify the behaviours that took place during attuned interactions. Two coders (authors SQ and RM) independently watched the micro-moments in chronological order via a projector. Having viewed a micro-moment, the coders selected any of the behaviours from the checklist that they observed in the videos. This generated separate checklists for each micro-moment; a checklist for the behaviours displayed by the dentist and those displayed by the patient (see columns 3 and 4, Table 3). This procedure was repeated for each micro-moment and each patient. Having coded all of the micro-moments (see Table 2, stage 2), up to 4 of the micro-moments where the interaction involved dental procedures (e.g. I'm going to look at your teeth now) and 4 micro-moments where the interaction was unrelated to dental procedures (e.g. a conversation about what the patient was going to do after the appointment) were selected, making a total of up to 8 micro-moments to use in the VIG session with the dentist (see Table 2, stage 3). If the coders were unable to agree on the micro-moments to be used in the VIG sessions, a third coder (author DH) independently watched the micro-moments and coded the micro-moment using the checklist in Table 3. If the third coders' selections differed from the first

two coders', the micro-moment was not selected and SQ and RM selected an alternative micro-moment where they were in agreement. However, if the third coder agreed with one of the first two coders, this micro-moment was selected and used in the VIG session (see Table 2, stage 4). We opted for this approach because we wanted to ensure that we captured a range of behaviours that occurred during dental procedures (e.g. a discussion about what is involved in providing a filling) and more general interactions (e.g. asking the patient 'How are you today?' and 'What are you up to later?').

| **Stages of Video Selection** | **Selection Procedure** |
|---|---|
| 1 | SQ identified the time frame in the video segments (now referred to as micro-moments) where verbal and non-verbal communication took place between the dentist and patient |
| 2 | SQ and DH independently viewed and coded each video segment in chronological order using a checklist |
| 3 | SQ and DH selected 4 micro-moments where the interaction involved a discussion of the dental procedures and 4 moments where the interaction involved informal conversations (e.g. What have you been up to today?). Using only 8 micro-moments ensured that the study was manageable. |
| 4 | RM coded the micro-moments independently using the checklist if SQ and DH could not agree in stage 3. Otherwise, this stage would be left out and the selection procedure would end. |

*Table 2: The procedure used to select micro-moments for the VIG sessions*

*2. Training the coders to use the checklist*

Coders DH and RM were trained by SQ to identify the behaviours listed in the checklist in order to recognize attuned interactions in the micro-moments. To explain and define "attuned interactions", the coders were shown an example video that was freely available on the web. This video involved an interaction between a dentist and a boy with Down Syndrome. SQ described examples of the behaviours the coders should look out for and how these related to the categories

| Category | Interaction | Please Tick (Dentist) | Please Tick (Patient) |
|---|---|---|---|
| **Being Attentive** | Looking Interested with friendly posture | | |
| | Giving time and space for the other | | |
| | Wondering about what the other is doing, thinking or feeling | | |
| **Encouraging Initiatives** | Waiting | | |
| | Listening actively | | |
| | Showing emotional warmth through intonation | | |
| | Naming positively what you see, think or feel | | |
| | Using friendly and/or playful intonation as appropriate | | |
| | Saying what you are doing | | |
| | Looking for initiatives | | |
| **Receiving Initiatives** | Showing you have heard, noticed the other's initiative | | |
| | Receiving with body language | | |
| | Being friendly and/or playful as appropriate | | |
| | Returning eye-contact, smiling, nodding in response | | |
| | Receiving what the other is saying or doing with words | | |
| | Repeating/using the other's words or phrases | | |
| **Developing Attuned Interactions** | Receiving and then responding | | |
| | Checking the other is understanding you | | |
| | Waiting attentively for your turn | | |
| | Having fun | | |
| | Giving a second (and further) turn on the same topic | | |
| | Contributing to interaction/actively equally | | |
| | Cooperating - helping each other (working together) | | |

*Table 3. Modified checklist of the behaviours characterising attuned interactions*

contained in the checklist. For example, they were told that 'showing you have heard/noticed the other's initiative' could involve responding to what the patient is saying with words or smiling in response to a positive comment made by the patient. Whilst the examples used in the training of DH and RM were used to explain this category, the coders were told that there were alternative behaviours that they could observe in the micro-moments that could be categorised in the same way.

*3. Video segments used in the VIG sessions and selected using the coding procedure*

Fifteen micro-moments were identified in the video recording of the appointment with P1 and nine micro-moments were identified from the video of the appointment with P2. Cohen's κ (Cohen, 1960), with 95% confidence interval estimates, was run to determine if there was agreement between

SQ and RM. There was significant agreement for all of the micro-moment segments for P1, $\kappa = .812$ (95% CI, .706 to .901), $p < .001$, and P2, $\kappa = .797$ (95% CI, .643 to .916), $p < .001$. SQ and RM agreed on 7 out of the 9 micro-moments identified for P2. DH and RM agreed on the use of micro-moment 8 in the VIG session involving P2. The ninth micro-moment was not used because DH disagreed with coders SQ and RM.

*Procedure*

Each VIG session lasted no more than 45 minutes, were recorded via an Olympus Digital Voice Recorder (WS-811) and carried out in a quiet room at the University of Dundee. The dentist reviewed the micro-moments for P1 and P2 in separate VIG sessions. Only the dentist and the guider (SQ) were present in the room. Video segments were presented in a randomised order via a desktop computer.

**Results and Discussion**

*Analysis*

The audio recordings taken during the VIG sessions were transcribed verbatim by SQ and formed the data that were used in the analysis and a thematic analysis of the VIG sessions was conducted. This involved becoming highly familiar with the content of the VIG transcripts through in-depth reading and consideration of the text. A thematic analysis was developed by identifying key issues that were contained in the transcripts (using *a priori* topics derived from the main aim of the VIG session), in addition to issues that the individual participants in the VIG sessions raised). Passages of text were coded according to each issue or theme identified[36].

*Using Verbal and Nonverbal Strategies to Encourage Initiatives and Reduce Anxiety*

During the initial encounters with the patient (where P1 and P2 had entered the treatment room), the dentist highlighted the importance of using non-verbal and verbal communication strategies to reduce anxiety. Several themes evolved from the discourse analysis including the dentists' belief that conversations that are not specific to dental procedures (e.g. 'what have you been

up to recently?') are used by the dentist to build-up a rapport and gain the trust of P1. The dentist recognises that these initiatives may reduce patient anxiety and encourage attuned interactions with P1. Accordingly, the dentist recognises that this can have a positive effect on patients. In addition, the dentist emphasises that non-verbal communication strategies (i.e. eye-contact) can reduce the patients' level of anxiety. Where patients avoid eye-contact with the dentist, they suggest that this would be a cue to the patients' dental anxiety.

> **Dentist:** I was trying to have some chat with her that would put her at ease… so get a little bit of a a rapport going between us… I was kinda trying to ma make the patient feel kinda of good and relaxed… I like to make some sort of eye-contact with the patient and look at them when I start… I think there are other gaug things you gauge from having eye-contact with someone… if they were avoiding having eye-contact with me you know I might… read that as a signal that you know they they didn't really want to be their… but you know if they look at you all bright eyed and kinda engage with you then I think actually you know this is actually going ok I've actually got them on side.

In elaborating on this point, the dentist revealed a desire to acknowledge the patients' needs and interact with P1 as a person. The dentist stated that it was essential to let P1 know they were important and not simply one of a list of patients they would see on that day. They also suggested that eye-contact can be used to convey a sense of importance and to ensure that the patient felt that they were the main focus of the interaction.

> **Dentist:** I think eye-contact helps people feel that your your em dealing with them as a person rather than they're just kinda just another part of your your job on a conveyor belt… its saying I'm I'm aware its its you and I'm you know you're different from the last person. I'm I'm engaging with you now and I my attention is is towards you and you know I want to take care of you during this appointment…

Unlike the previous patient (P1), the dentist noted that P2 showed greater difficulty to use verbal and non-verbal strategies (i.e. eye-contact and verbally responding to the dentists' initiatives). The dentist suggests that P2 may have difficulty receiving their initiatives because they perhaps felt anxious in the dental surgery. The contrast in the discourses used by the dentist in response to P1 and P2 highlights the difficulties the dentist may face in ensuring that patients are anxious free in the dental surgery. On reflection, the dentist suggests that the difficulty to make eye-contact with P2 may reflect the patients' vulnerability in this situation and that it may take some time before the patient feels ready to look at them.

> **Dentist:** he's feeling unsure… and you know he's feeling feeling a bit anxious about the appointment anyway he's not sure what's happening… although I'm making little attempts to make eye-contact with him you know the head is staying ( ) firmly down and I think it's going to take more than a few kind of short attempts to actually get eye-contact… I think he I think he's probably a little bit kind of bewildered and not ( ) yeah feeling a bit anxious

The dentist indicates that this communication barrier leads to difficulties in building a relationship with the patient. Whilst the dentist mentions that they try hard to make eye-contact, they also point out that this is their first appointment with this patient, and that they would develop a relationship with the patient at future appointments.

> **Dentist:** and actually ( ) you know longer term ( ) investing that time certainly you know if he was a regular patient I was I was seeing on the clinic ( ) you know I would I would really want to invest in that relationship a bit more and gain his trust

To overcome this difficulty, the dentist suggests a different approach to the one used with P1 who had no difficulty communicating verbally and non-verbally with the dentist. The dentist mentions

that eye-contact may be achieved with this patient if they repositioned themselves relative to the patient. By positioning themselves below the patient, remaining seated, moving in front of the patient and /or giving the patient more time to receive their initiatives this may have encouraged the patient to look at them. This is a significant turning point in the VIG session because the dentist recognises the impact of not using appropriate non-verbal strategies with P2. In fact, the dentist realises that this simple change to their body language and non-verbal strategy may have encouraged the patient to engage more fully from outset of the appointment.

> **Dentist:** maybe spent a little bit longer in front of him trying to trying to talk to him until I did get eye contact… by by moving round tryin to in front of him whereas I even though I was kinda in front of him I wasn't right in front of him before and I maybe could even have come down slightly more to his level as well… to see me he he was very much down so I could have got down on my knees there actually

*Using non-verbal strategies to relinquish control to the patient*

The discourse used by the dentist during the VIG session acknowledged their role in offering the patient some control in their dental appointment. In one encounter, P1 is told to raise their hand if they want to indicate to the dentist that they should stop what they are doing. P1 responds to this initiative by raising their hand. The dentist mentions that the patient would be able to over-rule what the dentist is doing and perhaps reduce the patients anxiety during their treatments.

> **Dentist:** I wanted to say to her that you know reassure her that if she wanted me to stop at all she could just put her hand up so I was trying to give her control because I think sometimes when you are lying flat on your back and and things are kinda noisy you've got two people kind of a noisy suction machines and descending on you I just wanted to kinda of reassure her that she was still in control I was communicating with her verbally em but asking her… giving

her a way of communicating with me' and that it helped me to know that you know that that the message had got over to her.

In another micro-moment, the dentist wanted to observe and then instruct P1 on effective tooth brushing. Compared to the previous interaction, P1 has less control over the encounter and is being led by the dentist (the dentist has control over the interaction). In particular, the dentist believed that P1 had difficulty following the model of tooth brushing. In the dentists view, this proves to be a significant challenge to P1 and may require a different strategy.

**Dentist:** I didn't think she would cope with em me kinda showing her the perfect model for tooth brushing I wanted to see how she did it and then maybe just give her one or two changes that maybe she could cope with… she wasn't necessarily using the brush in the most efficient way but I didn't want to start talking about the direction she was rotating the bristles in or anything like that… I don't think she could cope with that what I wanted her to do was just make you know a a simple change to what she was already doing.

This example differs from the discourses used by the dentist previously. In the former encounter, P1 and the dentist were equally contributing to the interaction. In this latter example, the discourses used by the dentist define their view of P1s capacity to follow their instructions given the strategy the dentist has used. Whilst P1 agrees with the instructions provided by the dentist by saying 'yeah, yeah, yeah' (quoted directly from the transcript of the micro-moment) and nods their head, the dentist is uncertain whether P1 has fully understood their instructions. The dentist describes this in the VIG session by saying that P1 is 'doing all the right things, but that seems to be her disposition' (quoted directly from the transcript of the VIG session).

Whilst the response provided by the patient could be interpreted as though they had received the initiative from the dentist (i.e. the verbal and non-verbal cues were congruent), the dentist has

interpreted the patients' response as though it had not been received (i.e. it is incongruent). This leads to questions regarding the effectiveness of the strategy used by the dentist during this encounter, but also highlights that by reflecting on their approach they can recognise that it had not been successful. This leads to one important question. Why does the dentist believe the patients can understand and follow the instructions in the former encounter, but not in the latter encounter? Can the discourses used in these two separate VIG sessions be reconciled? The dentist was asked to reflect on whether there were things they would do differently with P1 in the future. In reconciling this breakdown in communication, the dentist suggests that they would initiate a further response from P1. By using this strategy (initiating and receiving the other's initiative) they state that this they could ensure that P1 has understood their instructions and the message has been received.

> **Dentist:** trying to focus on a smaller area at one time… for instance with the tooth brushing and then taking time to to check whether she's understood… I'm just trying to think to further back at the episode where I first started and I said put your hand up and she put her hand up and she said yeah yeah yeah and put up her hand… I made my own judgment that that was something that she had had grasped em… whereas something a little bit more complex like the order of how to go round your em mouth with a toothbrush em I judged that as being a little bit more complex so I may want to to check that… I'd a-ask her to show me again you know [Patients name] when you go home how are you going to brush your teeth can you can you show me you know where you're going to start and how you're going to do it.

The dentist indicates that the amount of information necessary to improve the patients' tooth brushing could have been broken down into several follow-up appointments. The dentist has reflected on their interaction and whether the communication strategy had been successful. The discourse reveals their interpretation of the situation and the need to be more aware of the patients needs.

**Dentist:** Tooth brushing instruction might have been better as a completely separate visit for her… In hindsight looking at that you know it's helped me think actually you know just giving her another 5 minute visit that I was trying to cram a lot into an appointment… another appointment to do the just the tooth brushing would have probably have been sensible their

The dentist goes on to discuss the importance of enabling P2 to have ownership and control in the appointment by repositioning themselves to have eye level below the patient. They suggest their body language and in particular the fact that they are standing over P2 is not effective in the patient receiving any of the initiatives the dentist is trying to implement. By taking into account their body language, the dentist may relinquish partial control of the situation and enable P2 to feel less anxious. This could improve the outcome of the encounter for the patient.

**Dentist:** There's something quite dominant about about a person being higher up than you… whereas you know if you come down to below them em its kind of slightly making yourself vulnerable but its its allowing them to have the control in a way… I think its to do with the kind of hierarchy… I think as I said to you before the one thing is to actually sit down right at the beginning I think that would have made all the difference

In this micro-moment, the emphasis on positioning becomes a powerful strategy for change and the dentist recognises this in a micro-moment where the dentist uses their body language more effectively. At the end of the appointment, the dentist remains seated alongside P2 and discusses how well they behaved during the appointment. At this point, the patient responds verbally to the dentist. This is the only verbal response P2 provides during the appointment. The dentist reflects on this moment and why this may have occurred. The discourse suggests that the dentist recognises that the patients' (P2) verbal response has been achieved by using body language and verbal cues that are congruent.

**Dentist:** I think it is a combination of factors… I just told him he's done something reasonably well… and em I'm at his level yeah and [inaudible] all these things contribute towards it

These reflections demonstrate that the dentist recognises their role in the encounter and that using their body language effectively encourages initiatives from the patient. Thus, the dentist recognises a change in their style of communication and the benefit of using this strategy to facilitate P2 in receiving and initiating a response. This is an important turning point in the appointment and is a significant improvement on the previous situation where the patient and dentist were not interacting effectively.

**General Discussion and Conclusion**

Patients with intellectual disabilities have poorer oral hygiene than the general population. These oral health problems stem from the anxiety that patients experience when they visit the dentist. Clinicians often report difficulties in communicating with patients with intellectual disabilities and communication difficulties because they rarely treat patients during their training or in the dental surgery that may explain poorer health outcomes in this population (Coyle, 2011; Oliver & Nunn, 1996; see Dolan, 2013 for a review). Dental staff may be reluctant to provide physical dental treatments to patients with intellectual disabilities and communication difficulties because they feel anxious (Baird et al., 2008; British Society of Disability and Oral Health, 2004; Shin & Saeed). For these various reasons, many patients are referred to Special Care Clinics rather than treated at a general practice.

Clinical staff and patients may misinterpret the information that is delivered by a communicator. To ensure that a message has been understood, the communicator should confirm whether the individual receiving the message has understood what has been communicated and reflect on their strategy (Dougall & Fiske, 2008). Where signals are incongruent, a message is likely to be misunderstood. By recognising this breakdown in communication in the dental setting and trying

to resolve this during the appointment, the dentist may remove some of the difficulties encountered by clinical staff and patients.

In this study, a novel training technique called VIG (Kennedy, 2011) was used to examine the communications strategies of a dentist with their patients and become attuned with their patients.

The dentist believed that positive relationships can ensure that the patient trusts the dentist. By building the patients' trust, the dentist may reduce any anxiety that the patient experiences and encourage attuned interactions with their patients. In particular, the dentist mentions that general conversations ('How are you today?') can develop these relationships and have a positive impact on how the patient feels in the clinic. Arguably, using eye-contact effectively and conversing with the patient should reduce levels of anxiety and convey to the patient that they are the main focus of the appointment. In this way, the message can be received and understood by the patient (i.e. the verbal and non-verbal signals are congruent). Where a patient does not receive the dentists' initiative by using eye-contact or responding verbally, the dentist suggested that a patient may feel nervous. To overcome this communication barrier, the dentist suggested that they could have repositioned themselves below the patient (used an alternative non-verbal strategy) that may have encouraged the patient to look at them and respond. By doing so, the patient may have received and initiated a response. This was recognised by the dentist in one situations where they had focused their fully attention on the patient by sitting in front of them and provided the patient with more time to respond. By waiting for a response, the dentist enabled the patient to receive and initiate a response in their own time. Therefore, rushing a patient with intellectual disabilities and communication difficulties to respond and using inappropriate body language can lead to a break-down in communication. Simple changes to these strategies would improve communication and overcome barriers to communication in the dental surgery.

Providing clear instructions to patients with intellectual disabilities and communication difficulties should enable both parties to initiate and respond during an interaction and provides a congruent message. However, if the dentist is unable to convey a congruent message to a patient, it

is likely that the message will be misunderstood by the patient. The dentist recognised that the patient had understood their initiatives (i.e. verbal instructions to lift their hand if they wanted them to stop) and received and initiated a response (i.e. by saying yes and holding up their hand). In this case, the dentist knew that their verbal and non-verbal strategy was congruent. However, in rushing the patient and providing too many instructions, they recognised that the patient had misunderstood their instructions (i.e. leading to an incongruent message). Whilst they recognised that the patient saying 'yes yes yes' may have been interpreted as a positive response, their actions whilst brushing their teeth was not correctly implemented. The dentist mentioned the possibility that this type of instruction could be provided across a number of appointments. By using this strategy the patient may have engaged in preventative measures that could improve their oral health.

Taken together, these results suggest that dentist can deliver congruent messages (i.e. use verbal and non-verbal communication strategies effectively) that encourages attuned interactions. The dentist has also learned the importance of checking the patient has understood their initiatives and the need to adapt to a new strategy when the need arises. The dentist recognises that non-verbal (body language) and verbal communication (verbal instructions and general conversation) can reduce anxiety and encourage the patient to work alongside the dentist. We suggest that dentists may benefit significantly from this reflective practice with the added benefit of improving the oral health of patients with intellectual disabilities and communication difficulties.

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